

Effect of seaweed liquid fertilizer on growth, biochemical components, and antioxidant activity of *Amaranthus caudatus* L.

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Seaweeds or marine macro-algae are important renewable resources of marine ecosystem having various biological activities. So, utilization of seaweeds as fertilizer is one of the best option to enhance vegetative growth and biochemical yield in agricultural sector. Hence, a study was carried with seaweed liquid fertilizer (SLF) of *Gracilaria corticata* by applied through soil. The results indicated that shoot length, root length, number of leaves, leaf area, above ground biomass, total chlorophyll, total phenolic content, flavonoid, vitamin C, carotenoid, total soluble protein, total carbohydrate and free amino acid were increased by 43%, 72%, 47%, 91%, 143%, 87.5%, 78%, 120%, 44.7%, 77.8%, 99.9%, 126.5% and 103% when compared to control. Application of SLF of *Gracilaria corticata* not only promoted growth and biochemical components but also increased free radical scavenging activity (77%), ferric ion reducing power activity (73%) and superoxide radical scavenging activity (77%) in relation to control. The study brought to light that SLF of *Gracilaria corticata* as SLF is an viable option for producing value added green leafy vegetables.

KEY WORDS:

Gracilaria corticata, Seaweed liquid fertilizer, *Amaranthus caudatus* L., Biochemical components and antioxidant activity